

Work Order ID 73388

Wednesday, August 31, 2011 2:16:31 PM



Page 1

Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Item Name: Replacement Skidtube

Stop



Start Date: 8/31/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 9/16/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan: CLDate: 11/08/11

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

D2580-041

Rev.D DEO-D1

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy D205-634 bluefile & type labels per PPP D205-634-041 CHG002

N/A

110

0.00



BENDING MACHINE - SKIDTUBES

CNC Bend 1

Memo

0.00

CNC Delta 100 Bender

1-Bend as per program D2580.C on CNC Bender and Folio 16

2-Cut tubes as per Dwg. D2580

3- scribe batch# in aft end of tube

11-10-19

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Date: _____

Tooling: _____

Date: _____

Run Start



QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120

0.00



Skidtubes

Memo

0.00

1- Deburr ends and remove bending marks

2- Prepare tube for welding as per QSI 004

BB

11/10/22

130

0.00



QC

QC5- Inspect part completeness to step on W/O

Memo

0.00

Quality Control

1 8 BE11/10/25

W/O:		WORK ORDER CHANGES					
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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140		0.00							



Skidtubes

Skidtubes

Memo

0.00

1-Weld step D2576 as per Dwg. D2580 and QSI 004
A/R ☐ ☐ Aluminum Rod *M118736*

BE 11/10/25

2-Grind welds on step as per Dwg D2580

3-Weld spacers as per dwg D2580

BE 11/10/25

A/R M118736

3- *** N/A**** Insert D4202-1 spacer, swage as per QSI002 and trim/ grind
flush per QSI002 and dwg. Hold x-bolt with DT9701 Use tube expander 1/2
x17G to start expansion and finish with 1/2 x 18G to achieve dwg dimension.

GRIND WELDS

11/10/26

4-Drill holes for wearplates using DT 8217 & DT8937 Open holes to 19/64",
adjust stopper not to hit web. Debur

6-Drill pilot holes for aft cap using DT 8215 Open holes to 0.208". Debur

7-Drill pilot holes for Tow ring using DT8091, open to .640" and Debur

11/10/27

C-Bore

11/10/27

W/O:		WORK ORDER CHANGES					
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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150 QC Quality Control	QC10- Inspect visual per QSI004- ground welds Memo	0.00 0.00							
			Sukol27						
160 QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00							
			Sukol27						
170 HandFinish Hand Finishing	Pressure Wash per QSI005 4.3 Memo Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch and leave fwd cap out of solution.	0.00 0.00							

IXCM 11/10/27

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[REDACTED]

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Setup Start

[illegible]

Stop

Abstract

Start Date: 8/31/2011 **Start Qty:** 1.00

Cust Item ID:

Required Date: 9/16/2011 Req'd Qty: 1.00

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Run Start

[illegible]

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

[illegible]

**Insp.
Stamp**

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

[illegible]

Powdercoat

Powder Coating

Memo

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

0.00

01-

1

190

QC3- Inspect Part Finish

0.00

QC

Quality Control

Memo

0.00

~~NO m-l~~ 11/10/28

1 BR 11-11-2.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Start Date: 8/31/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 9/16/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp	
200		0.00								
	HandFinish									
Hand Finishing	<div>Memo</div> <div>1-Install inserts & wearplates & Gaskets as per Dwg. D2580. Use a drop of Sikaflex on insert holes before installing wearplates A/R <input type="checkbox"/><input type="checkbox"/><input type="checkbox"/> Sikaflex-291 <input type="checkbox"/> 119299 <input type="checkbox"/><input type="checkbox"/> Sikaflex expire date: 12-5-</div> <div>2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580</div> <div>3-Inspect for foreign object per QSI 024</div> <div>4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step & Aft Cap with Sikaflex. Clean excess adhesive A/R <input type="checkbox"/><input type="checkbox"/><input type="checkbox"/> Sikaflex-291 <input type="checkbox"/> 119299 <input type="checkbox"/><input type="checkbox"/> Sikaflex expire date: 12-5-</div> <div>5-Wing Walk as per Dwg D2580 and QSI 005 4.4 Batch: 118905</div>	0.00						1	BL 71-11-21	

1 BL 11-11-21

W/O:		WORK ORDER CHANGES					
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Cust Item ID:

Required Date: 9/16/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210 QC Quality Control	QC5- Inspect part completeness to step on W/O Memo Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024	0.00 0.00							<u>11-11-11-02</u> (1)
220 Packaging Packaging Packaging	Packaging Memo Identify and pack for shipping as per PPPD205-634-041 Location: _____ PPP Rev: <u>PPP 7338 74682</u>	0.00 0.00							<u>Pc 11/14/14</u> (1)
230 QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00							<u>11/11/14</u> (1) MF 11-11-14

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Picklist Print

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Page 1

Work Order ID: 73388

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 8/31/2011

Required Date: 9/16/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30
KJ IPP Rev P 10.02.19
per PAR09-043 EC verified by:DD
IPP Rev. O 06.02.28 Added paperwork EC
IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM IPP Rev:Q
10.12.01 as per chg003 DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D4202-T Spacer	D2579	Manufactured	No			140	Each	443.0000	20	20			

Location	Loc Qty	Loc Code
LG002	443	
66929	106	
67129	196	
67308	1	
67430	140	

D2580-1 205 Skidtube bent detail	Manufactured	No				110	Each	7.0000	1	1			
-------------------------------------	--------------	----	--	--	--	-----	------	--------	---	---	--	--	--

Location	Loc Qty	Loc Code
LG	7	
72637	2	
72840	1	
72965	2	
72966	2	

D2576-3 Step (maching detail)	Manufactured	No				140	Each	24.0000	1	1			
----------------------------------	--------------	----	--	--	--	-----	------	---------	---	---	--	--	--

Location	Loc Qty	Loc Code
LG	24	
66156	24	

BE 11/10/25
B 73751 20

~~11-10-19~~

11-10-19

BE 11/10/25

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Parent Item Name: Replacement Skidtube

Start Date: 8/31/2011

Required Date: 9/16/2011

Start Qty: 1.00

Required Qty: 1.00

D2855 Manufactured No

200

Each

21.0000

1

1



Cap



BR 11-11-2

Location

Loc Qty

Loc Code

FP007

21

65519

2

65569 ✓

19

AN3-5A Purchased No

200

Each

989.0000

2

2



Bolt



BR 11-11-2

Location

Loc Qty

Loc Code

ST350

989

115371 ✓

46

117423 ✓

643

118626

300

AN960JD10L ~~NAS1149D0332J~~ / Purchased No

200

Each

0.0000

2

2



Washer



2.

BR 11-11-2

ALS7-1032-130 Purchased No

200

Each

1,155.000

50

50



Insert



BR 11-11-2

Location

Loc Qty

Loc Code

ST282

1155

117717 ✓

899

118386 ✓

256

50.

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Shop Packet Print

Page 2

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Start Date: 8/31/2011

Required Date: 9/16/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C4A

Purchased

No

200

Each

2,151.000

50

50



BOLT



BR 11-11-2

Location

Loc Qty

Loc Code

ST350

2151

117313

2

117688

36

117795

1

117872

22

118012

20

118112

40

118451

1000

118628

530

118706 ✓

500

50

AN960C10L

* NAS1149C0332 R

Purchased

No

200

Each

0.0000

50

50



118354



50

BR 11-11-2

washer

D3566-13

Manufactured

No

200

Each

16.0000

1

1



BR 11-11-2

Gasket

Location

Loc Qty

Loc Code

FP

1

69281

1

FP014

15

68341

1

72149 ✓

14

0

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Parent Item Name: Replacement Skidtube

Start Date: 8/31/2011

Required Date: 9/16/2011

Start Qty: 1.00

Required Qty: 1.00

D3566-5
Gasket

Manufactured No

200 Each

15.0000 1 1



BR 11-11-2

Location

Loc Qty

Loc Code

FP015 74387
68961
72849

15
1
14

1

D3566-1
Gasket

Manufactured No

200 Each

9.0000 2 2



BR 11-11-2

Location

Loc Qty

Loc Code

FP015 73303
68924
72848

9
2
7

2

D3564-11
Wearshoe

Manufactured No

200 Each

5.0000 1 1



BR 11-11-2

Location

Loc Qty

Loc Code

FP020 73146
72207

5
5

1

D3564-13
Wearshoe

Manufactured No

200 Each

1.0000 1 1



BR 11-11-2

Location

Loc Qty

Loc Code

FP017 72850
71594

1
1

1

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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Wednesday, August 31, 2011 2:16:29 PM

Work Order ID: 73388

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 8/31/2011

Required Date: 9/16/2011

Start Qty: 1.00

Required Qty: 1.00

D3564-9 Manufactured No

200

Each

7.0000

1

1



Wearshoe



BR 11-11-2

Location

Loc Qty

Loc Code

FP019

73345

5

67590

4

69943

1

FP020

2

72208

2

D3564-5 Manufactured No

200

Each

5.0000

1

1



Wearshoe



BR 11-11-2

Location

Loc Qty

Loc Code

FG

73330

2

34806

2

FP019

3

72164

3

D2594-3 Manufactured No

200

Each

436.0000

16

16



O-Ring, 205 Skidtube



BR 11-11-2

Location

Loc Qty

Loc Code

FP-A

436

65518

41

66952

395

16.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Page 6

Wednesday, August 31, 2011 2:16:29 PM

Work Order ID: 73388



Parent Item: D205-634-041



Parent Item Name: Replacement Skidtube

Start Date: 8/31/2011

Required Date: 9/16/2011

Start Qty: 1.00

Required Qty: 1.00

D2594-1

Manufactured No

200

Each

130.0000

16

16



Plug, 205 Skidtube



BL 11-11-2011

Location

Loc Qty

Loc Code

FP-A

73401.

130

42807

28

67441

7

72127

95

16

Wednesday, August 31, 2011 2:16:29 PM

Shop Packet Print

Page 6

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

LIST OF MATERIALS					
ITEM	QTY -041	QTY -045	QTY -047	PART NUMBER	DESCRIPTION
1	X			D2580-041	SKIDTUBE ASSEMBLY
2		X		D2580-045	SKIDTUBE ASSEMBLY
3			X	D2580-047	SKIDTUBE ASSEMBLY
4	1	1	1	D2500-1-190	EXTRUSION
5			16	D2570	BUSHING
6	1	1	1	D2576-3	STEP
7	20	24	25	D2579	SPACER
8	16	16	8	D2594-1	PLUG
9	16	16	8	D2594-3	O-RING
10	1	1	1	D2596	205 WEB
11	1	1	1	D2855	AFT CAP
12	1	1		D3564-5	WEARSHOE
13	1	1		D3564-9	WEARSHOE
14	1	1		D3564-11	WEARSHOE
15	1	1		D3564-13	WEARSHOE
16	2	2		D3566-1	GASKET
17	1	1		D3566-5	GASKET
18	1	1		D3566-13	GASKET
19			1	D4406-041	WEARPLATE ASSEMBLY
20			1	D4406-043	WEARPLATE ASSEMBLY
21	50	50		ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
22	50	50		AN3C4A	BOLT
23	2	2	2	AN3-5A	BOLT
24			8	AN4-45A	BOLT
25	50	50		NAS1149C0332R	WASHER (AN960C10L)
26	2	2	2	NAS1149D0332J	WASHER (AN960JD10L)
27			8	MS21042-4	NUT (OR MS21042L4)

GENERAL NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB
POWDER COAT ASSEMBLY (-041/-047) GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
POWDER COAT ASSEMBLY (-045) GREEN SANDEX (REF 4.3.5.8) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4.
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: D2580-041 = 34.5 lbs
D2580-045 = 34.5 lbs
D2580-047 = 37.7 lbs
- 8) WELDING PER DART QSI 004.
- 9) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 10) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 11) USE DART DRILL TEMPLATE DT8217 & DT8937 ONLY FOR D2580-041/-045 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTIONS B-B AND F-F (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND NAS1149C0332R WASHERS WITH SIKAFLEX-241/-291.
- 12) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES FOR D2580-041/-045 AND 8 PLACES FOR D2580-047)
- 13) IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 73388
CL 11/08/31

RELEASED
2011-08-29
WD

E	ADD D2580-047 (ZN C4-7) AND D2580-7 (ZN B3-8). INCLUDED DEO D2580-0-1; REFORMATTED DRAWING TO CURRENT STANDARDS; DT8217 & DT8937 WAS TD2577-205 (ZN C4-1)	RF	11.06.21
D	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/ 9183	PH	07.04.05
C	REDRAWN, INCLUDED DEO 9094/ 9097	CP	98.08.26
B	AS MANUFACTURED	DS	96.12.02
A	NEW ISSUE	DS	96.09.16
REV.	DESCRIPTION	BY	DATE
DESIGN	#	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	14	DRAWING NO.	REV. E
MFG. APPR.	15	D2580	SHEET 1 OF 8
APPROVED	14	TITLE	SCALE
DE APPR.	14	205 SKIDTUBE ASSEMBLY	NTS
DATE	11.06.21	COPYRIGHT © 1996 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

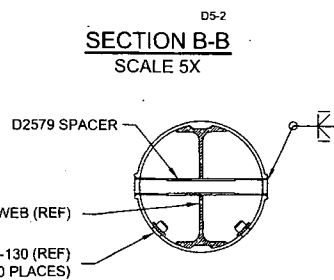
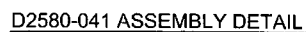
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



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31 2011-08-29

DETAIL C D3-2
SCALE 5X

GRIND FLUSH

4 PL

D2576-3 STEP

GRIND FLUSH

LOCATION RIDGE ON UNDERSIDE OF D2576-3

1/4"

DESIGN	4	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	10	DRAWING NO.	REV. 8
MFG. APPR.	10	D2580	SHEET 2 OF 6
APPROVED	10	TITLE	SCALE
DE APPR.	10	205 SKIDTUBE ASSEMBLY	NT
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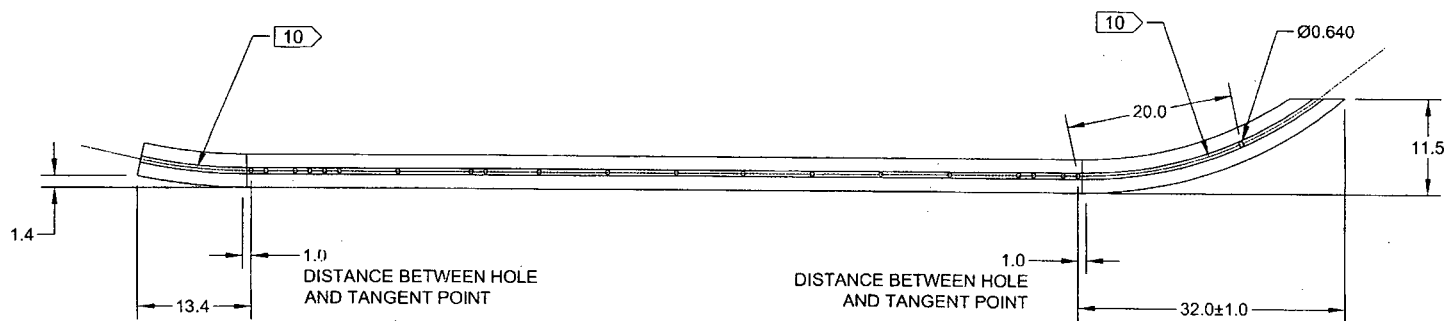
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D2580-1 BENT TUBE
(MAKE FROM D2580-101 TUBE)

RELEASED
2011-08-28
WY

DESIGN	#	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	RP	DRAWING NO.	REV. E
MFG. APPR.	RP	D2580	SHEET 3 OF 8
APPROVED	RP	TITLE	SCALE
DE APPR.	RP	205 SKIDTUBE ASSEMBLY	NTS
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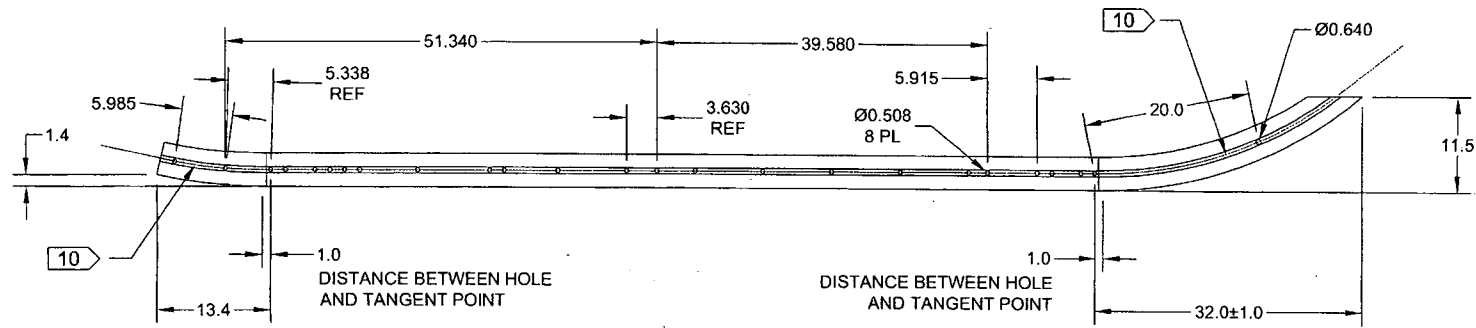
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D2580-5 BENT TUBE
(MAKE FROM D2580-101 TUBE)

RELEASED
2011-08-29

DESIGN	#	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	AP	DRAWING NO.	REV. E
MFG. APPR.	AP	D2580	SHEET 5 OF 8
APPROVED	AP	TITLE	SCALE
DE APPR.	AP	205 SKIDTUBE ASSEMBLY	NTS
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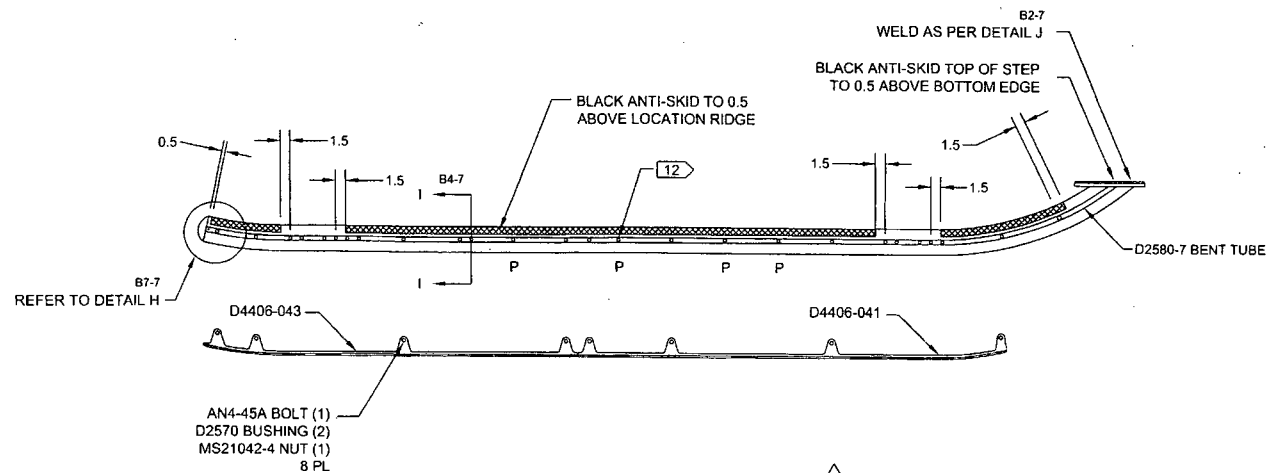
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

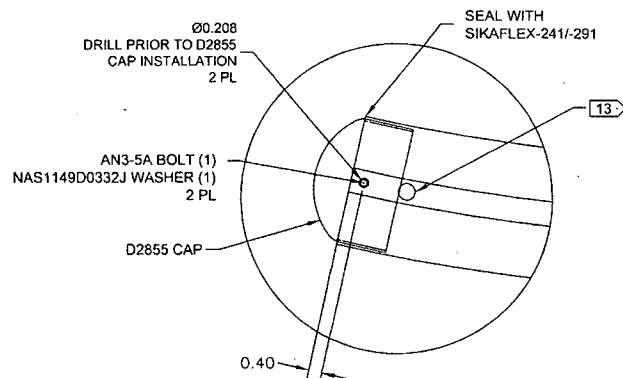
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

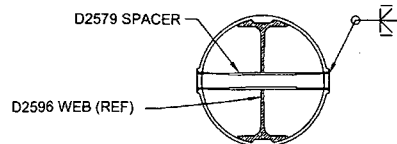


D2580-047 ASSEMBLY DETAIL E

DETAIL H C6-7
SCALE 5X

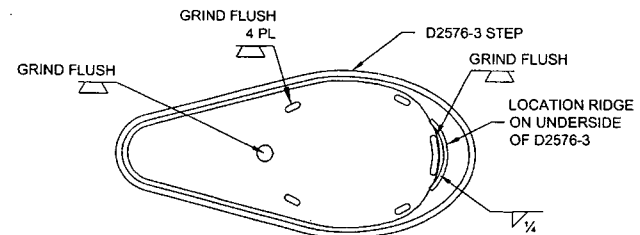


SECTION I-I D5-7
SCALE 5X



AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:
1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (25 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

DETAIL J D3-7
SCALE 5X



DESIGN	#	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	10	DRAWING NO.	REV. E
MFG. APPR.	10	D2580	SHEET 6 OF 8
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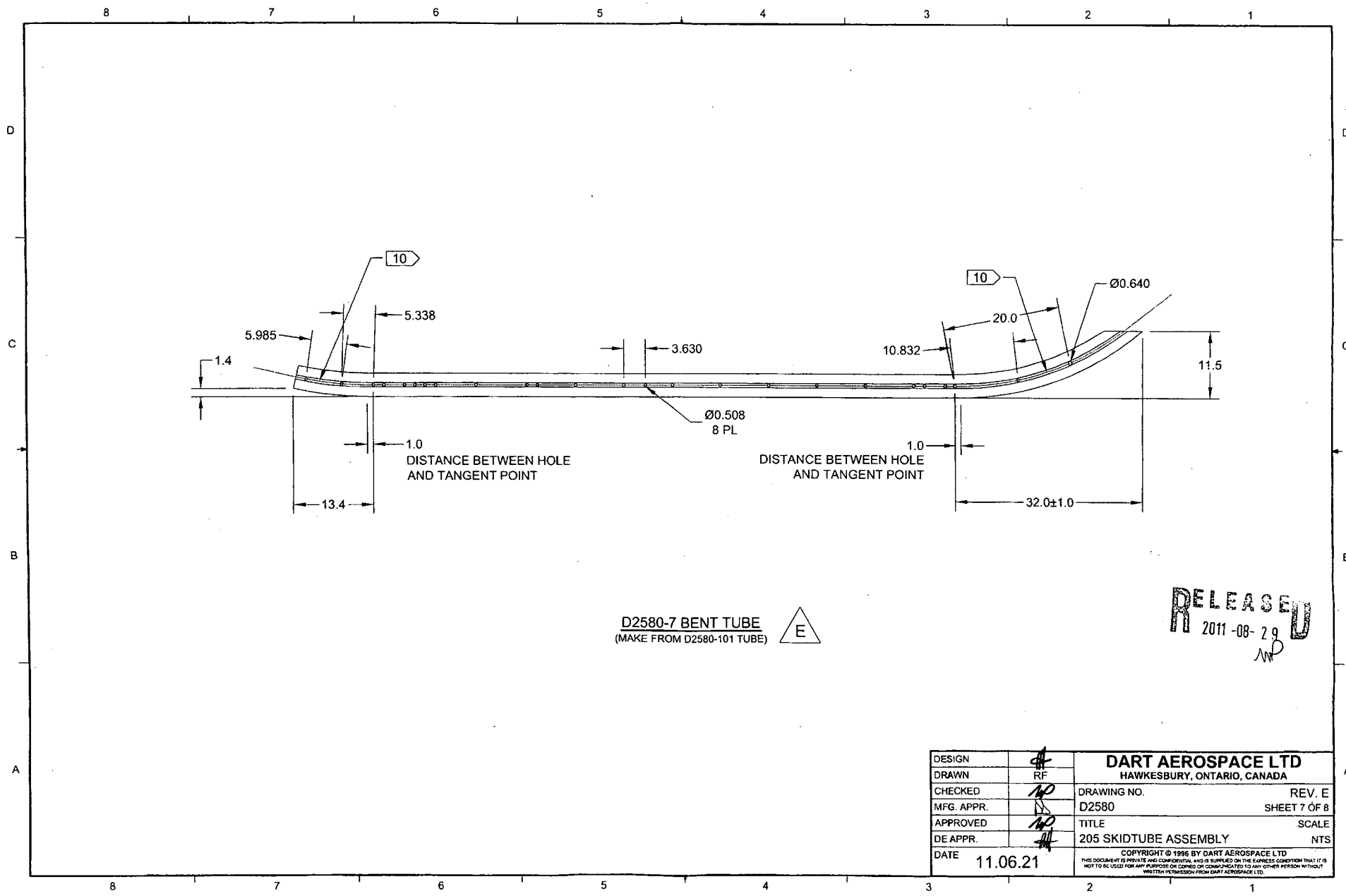
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D2580-7 BENT TUBE
(MAKE FROM D2580-101 TUBE)



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2011-08-29
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DESIGN	RF	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	RF	DRAWING NO.	REV. E
MFG. APPR.	RF	D2580	SHEET 7 OF 8
APPROVED	RF	TITLE	SCALE
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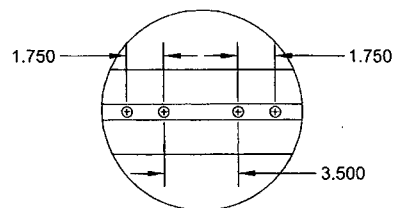
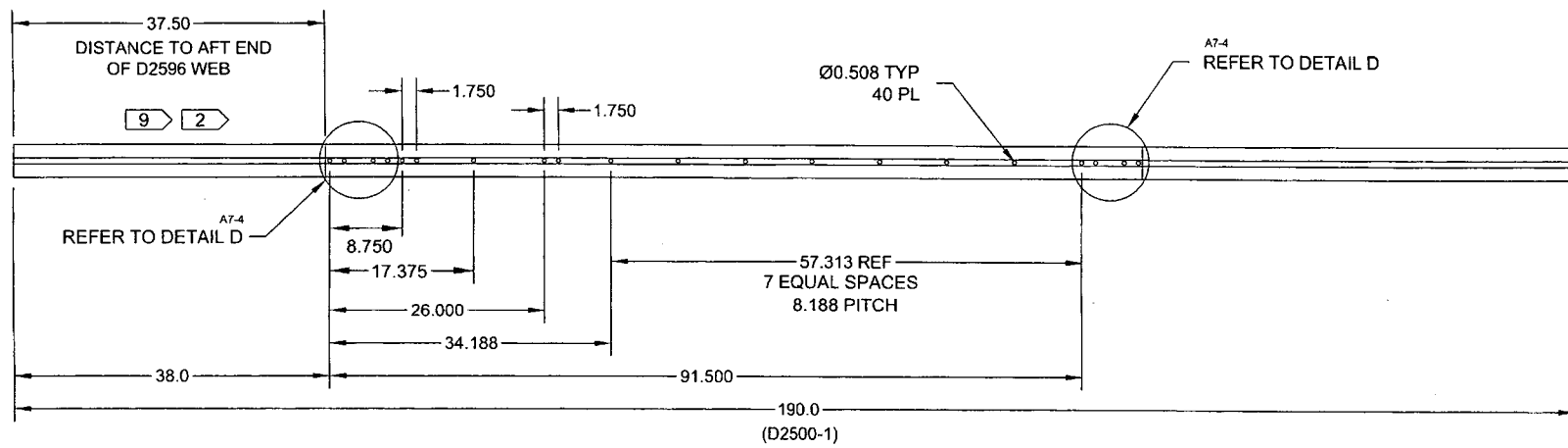
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DETAIL D
D3-4
C7-4
SCALE 5X

D2580-101 TUBE

RELEASED
2011-08-29

DESIGN	#	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	10	DRAWING NO.	REV. E
MFG. APPR.	10	D2580	SHEET 8 OF 8
APPROVED	10	TITLE	SCALE
DE APPR.	#	205 SKIDTUBE ASSEMBLY	NTS
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 271

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: 72859
Part number: 205 - 634 - 041
Description: 205 Skid tube
Welding Process: Tig ☒ Mig ☐
Base material: Aluminium
Current: AC ☒ DC ☐

TEST REQUIREMENTS AND RESULTS

Visual: pass ☒ fail ☐
Penetration: pass ☒ fail ☐

UNACCEPTABLE

Cracks: pass ☒ fail ☐
Undercut: pass ☒ fail ☐
Pin holes: pass ☒ fail ☐
Overlap (cold lap): pass ☒ fail ☐
Porosity (surface): pass ☒ fail ☐
Coloration: pass ☒ fail ☐

Qualifier Pat. Dunn Date of Test Coupon 11-10-12
Welder Barclay Elliott Date of Test Coupon 11-10-12

The above named individual is qualified in accordance with AWS D17.1.2001 to weld